MODULE 7 ACCOUNTING FOR LONG-TERM LIABILITIES AND EQUITY | CHS 13, 14 & 15

Learning Objectives:		Topic*	Ch & Time
7.1	Compare and contrast debt & equity financing; review debt-to-equity ratio.	F	Ch 13 pp.371-377; 382-391 5 hours
7.2	Identify and describe the different classes of stock and explain the rights afforded each class of stock.	F	
7.3	Describe the difference between cash dividends, stock dividends and stock splits, and the impact on the financial statements.	F	
7.4	Record stock transactions: contributions by owners, corporate distributions (dividends), and the reacquisition of company stock.	F	
7.5	Compare and contrast a periodic payment note payable, a lump-sum note payable, and a periodic and lump-sum note payable.	F	Ch 14 5 hours
7.6	Calculate the carrying value, interest expense and cash payment for note payable (periodic payment, lump-sum, periodic and lump-sum) transactions.	F	
7.7	Record transactions for notes payable: issuance and interest expense.	F	Ch 15 5 hours
7.8	Record transactions for bonds issued at face value, a premium and a discount.	F	
7.9	Identify the long term debt amortization impact on financial statements.	F	
		Module 7 Total Hours = 15	

* F: Financial Accounting; M: Managerial Accounting; A: Financial Statement Analysis

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NOTES:

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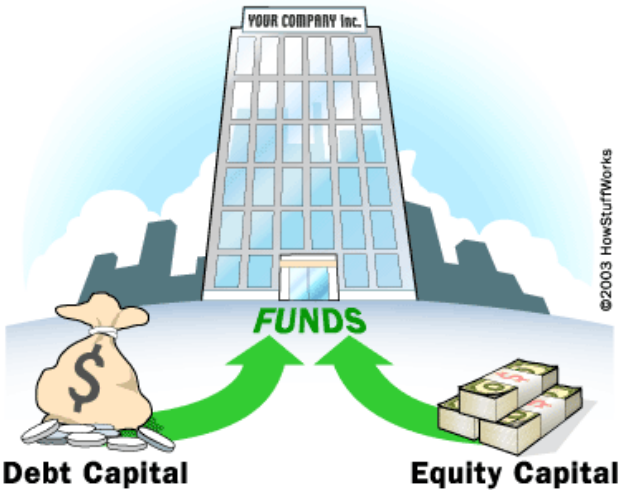
LEARNING OBJECTIVE 7.1:

Compare and contrast debt vs. equity financing; review debt-to-equity ratio.



Sources and Uses of Funds:

Sources	Uses
Debt Financing Current Liabilites (notes due in a year) Long Term Liabilities (bonds and long term notes)	**To Acquire:** Current and Long Term Assets (equipment, buildings, etc.)
Equity Financing Contributions from Owners (Stock or owners' investment) Earnings of the Company (net income)	

Debt financing:
1) Current liabilities (notes due within a year)
2) Long term liabilities (long term notes, bonds)

Risk of debt financing: Chance the company might fail because it can't make the interest and principal payments.

Measurements of risk:
1) Debt-to-Equity Ratio = Total Liabilities/Total Owners' Equity

In general, a ratio of **1 or less** is considered a safe level of financial risk. The higher this number, the greater the financial risk.

2) Times Interest Earned Ratio = Net Income before Interest and Taxes/Interest

This ratio should be **well above 1** in order to meet interest obligations. *This ratio shows the company's ability to service its debt.*

Reward of debt financing: When companies generate a return on their borrowed funds that is greater than the cost of using the funds (interest), the owners of the companies benefit (financial leverage).

Financial Leverage and Return on Owner's Equity:
Financial leverage can increase the rate of return on owner's equity when the rate of return on invested assets is greater than the interest rate paid to creditors. Debt can also create a higher return on equity. ***The higher the debt to equity ratio, the greater a firm's return on owner's equity.***

Example:	A	=	L	+	OE
Company 1	1,000,000		0		1,000,000
Company 2	1,000,000		700,000		300,000

Company 1 Net Income after Taxes = $120,000

Income before Taxes	$200,000
Tax Expense ($200,000 x .4)	80,000
Net Income	$120,000

Company 1 Return on Equity = ? 120,000/1,000,000 = 12%

Company 2 Net Income after Interest and Taxes =	$86,400
Income before Interest and Taxes	$200,000
Less: Interest Expense ($700,000 x .08)	56,000
Income before Taxes	$144,000
Tax Expense ($144,000 x .4)	57,600
Net Income	$86,400

Company 2 Return on Equity = 86,400/300,000 = 29%

Which company has the higher return? **Company 2**

Equity financing:

1) Owners' contributions
2) Net income reinvested in business instead of shared with owners

Risk of equity financing: Owners face the risk of not receiving a satisfactory return

Reward: Owners can gain financial reward with a satisfactory return on their investment.

Read and discuss article link: http://www.investopedia.com/financial-edge/1112/small-business-financing-debt-or-equity.aspx

Filing Empty Pockets: Borrowing, Loans and Credit http://www.startheregoplaces.com/teacher/classroom-resources/filling-empty-pockets-borrowing-loans-and-credit/

LEARNING OBJECTIVE 7.2:

Identify and describe the different classes of stock and explain the rights afforded each class of stock.

Types of Stock:

Common Stock

1. Right to vote on significant events, elect board of directors
2. Right to dividends when board declares
3. Preemptive right – right to maintain percentage of ownership when new shares are authorized
4. Rights to assets upon liquidation of the corporation

Preferred Stock

1. Have special privileges and first dibs on dividends
2. No voting rights

Types:

Cumulative – accumulates unpaid dividends over time.

Participating –allows preferred shareholders the right to receive an amount in excess of the stated dividend rate (excess given after common stockholders have been paid)

Callable – gives the corporation the right to repurchase its preferred stock (usually at a premium)

Redeemable – gives the shareholder the option to redeem the stock for cash for a predetermined price per share.

Convertible – shareholder can convert to common stock (ex. Each preferred share can convert to 4 common shares)

Watch https://www.youtube.com/watch?v=oVVt6P2q-6c and https://www.youtube.com/watch?v=ei-peEH2U9I about common and preferred stocks

The Ascent of Money http://www.startheregoplaces.com/teacher/classroom-resources/pbs-ascent-money-curriculum-taking-stock/#

Sample financials → sec.gov → 10K & Proxy

LEARNING OBJECTIVE 7.3:

Describe the difference between cash dividends, stock dividends, and stock splits, and the impact on the financial statements.

How do dividends work?

Corporations share profits with stockholders through dividends. Dividends can be in the form of cash, additional shares of stock, or other assets.

Cash dividends decrease retained earnings and cash.

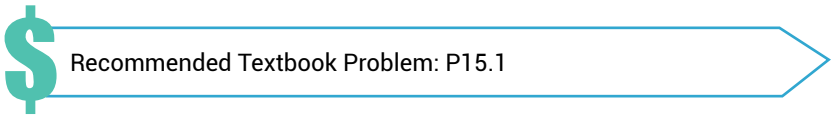
Stock dividends decrease retained earnings and increase the stock and paid in capital in excess (contributed capital) balances (see below).

Stockholder's Equity
Before and After Dividends

	Before	After
Common Stock	$150,000	$165,000
Paid-in Capital in Excess of Par Value, Common	30,000	75,000
Total Contributed Capital	$180,000	$240,000
Retained Earnings	900,000	840,000
Total Stockholder's Equity	$1,080,000	$1,080,000
Share Outstanding	30,000	33,000
SHE per Share	$36.00	$32.73

LEARNING OBJECTIVE 7.4:

Record stock transactions: contributions by owners, corporate distributions (dividends), and the reacquisition of company stock.



P15.1
a.

1.	Cash	3,000,000
	Common Stock	3,000,000
	(200,000 shares, $15 per share)	
2.	Cash (40,000 * $52)	2,080,000
	Preferred Stock (40,000 * $50 par)	2,000,000
	Paid-in-Capital in Excess of Par-P.S.	80,000
	(40,000 * $2)	
3.	Building	560,000
	Cash	150,000
	Common Stock (17,000 shares)	410,000

4. Cash	690,000	
Common Stock (30,000 shares)		690,000
5. Retained Earnings	407,000	
Dividends Payable-C.S.		247,000
Dividends Payable-P.S.		160,000

Common Dividend 200,000 + 17,000 + 30,000 = 247,000 * $1
Preferred Dividend $50 par * 0.08 = $4 dividend per share
40,000 * $4 = $160,000

b.

Ruckman Corporation
Partial Balance Sheet
December 31, 20XX

Stockholders' Equity	
Preferred Stock 8%, cumulative, $50 par value, 500,000 authorized, 40,000 issued and outstanding	$2,000,000
Paid-in-Capital in Excess of Par-P.S.	80,000
Total P.I.C.-Preferred Stock	$2,080,000
Common Stock, no par, 1,500,000 authorized, 247,000 issued and outstanding	4,100,000
Total Contributed Capital	**$6,180,000**
Retained Earnings ($945,000 income - $407,000 dividends)	538,000
Total Stockholders' Equity	$6,718,000

$ Recommended Textbook Problem: P15.2

P15.2

a.

1. Cash (800,000 shares @ $20)	16,000,000	
Common Stock (800,000 * $.01 par)		8,000
Paid-in-Capital in Excess of Par-C.S.		15,992,000
2. Cash (100,000 shares @ $44)	4,400,000	
Preferred Stock (100,000 x $40)		4,000,000
Paid-in-Capital in Excess of Par-P.S.		400,000
3. Treasury Stock (10,000 shares @ $19)	190,000	
Cash		190,000
4. Cash (2,000 shares @ $23)	46,000	
Treasury Stock (2,000 shares @ $19)		38,000
Paid-in-Capital from T-Stock Transactions		8,000

b.

Haug Corporation
Partial Balance Sheet
For the Year Ended December 31, 20XX

Shareholders' Equity

Preferred Stock 10% cumulative, $40 par value, 500,000 $4,000,000	
Authorized, 100,000 issued and outstanding	
Paid-in-Capital in Excess of Par-P.S.	400,000
Common Stock $0.01 par value, 2,000,000 authorized	8,000
800,000 issued, 792,000 outstanding	
Paid-in-Capital in Excess of Par- C.S.	15,992,000
Paid-in-Capital from T/S Transactions	8,000
Total Contributed Capital	$20,408,000
Retained Earnings	276,000
Total Shareholders' Equity before T/S	$20,684,000
Less: Treasury Stock	<152,000>
Total Shareholders' Equity	$20,532,000

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LEARNING OBJECTIVE 7.5:

Compare and contrast a periodic payment note payable, a lump-sum note payable, and a periodic and lump-sum note payable.

Face value – Stated value of the note

Face interest rate (%) – Interest rate printed on the note that is used to determine cash payments per period

Term – Life of the note (years)

Interest periods – Number of times interest (cash) is paid each year (annually, semi-annually)

Market or Effective rate (%) – Interest rate on other notes (Market rate is used to determine the present value of the note)

Definition Videos: http://www.investopedia.com/video/

Interest Rate Comparison	**Proceeds (cash received)**
Face Interest Rate > Market Interest Rate	Proceeds > Face value: PREMIUM
Market Interest Rate > Face Interest Rate	Proceeds < Face value: DISCOUNT
Face Interest Rate = Market Interest Rate	Proceeds = Face value

Examples:

Value of a Note
Equal to:
1. Present value of the FACE VALUE of the note, ***plus***
2. Present value of the INTEREST PAYMENTS

To calculate:
FV = Face value of the note
Pmt = Face value of the Note x Face rate x Time
c = number of payments per year
n = total number of payments
r = market rate
PV = Present value of the note

Helpful Hints
FACE interest rate is used to determine the INTEREST PAYMENTS (Cash paid)

MARKET interest rate is used to determine the PRESENT VALUE of the NOTE and INTEREST EXPENSE

INTEREST (CASH) PAYMENTS:
Face Value of the Note x Face Interest Rate / Interest Periods per Year

INTEREST EXPENSE:
Carrying Value of the Note x Market Interest Rate / Interest Periods Per Year

CARRYING VALUE OF A NOTE
Face value PLUS PREMIUM
Face value LESS DISCOUNT
Face value

COST OF BORROWING
Equal to: Total cash paid, less the cash proceeds

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LEARNING OBJECTIVE 7.6:

Calculate the carrying value, interest expense and cash payment for note payable (periodic payment, lump-sum, periodic and lump-sum) transactions.

$ Amortization website example: amortization-calc.com
Role-play using sample docs / debt instruments

LEARNING OBJECTIVE 7.7:

Record transactions for notes payable: issuance and interest expense.

LEARNING OBJECTIVE 7.8:

Record transactions for bonds issued at face value, a premium and a discount.

LEARNING OBJECTIVE 7.9:

Identify the long term debt amortization impact on financial statements.

Use this document in role play as you introduce bonds, using the textbook examples pp.437-442, to help students understand the promises on the face of the bond. They can then compare the promise vs. the actual market reality.

PD Retail
$1,000
10% semi-annual
10 year

*issue 2,000 of these bonds

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KEY POINTS FOR PERIODIC PAYMENT (INSTALLMENT) NOTES:

1. The initial carrying value of the note = proceeds = present value = face value
2. The face rate of interest = market rate of interest
3. The future value of the note is zero because we are paying back the face value of the note over its life.
4. Interest expense for a period is: carrying value x market rate x 1/c.
5. Payments are for interest and principal (face value) each period.
6. Carrying value of the note decreases over time as the principal (face value) is paid off.

Note #1 $60,000 3-year installment note with annual payments and 10% market rate of interest. Note made May 1, 2016.

FV = PMT = $24,126.89 r = 10% c = 1 n = 3 PV = 60,000

Date	Payment	Interest Expense	Principal	Carrying Value
5/1/16				$60,000.00
5/1/17	24,126.89	6,000.00	18,126.89	21,933.53
5/1/18	24,126.89	4,187.31	19,939.58	21,933.53
5/1/19	24,126.89	2,192.35	21,933.53	0

Spreadsheet Debt Amort Template: http://bit.ly/Mod7DebtAmortMap

NOTES

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Date	Account Title	Debit	Credit
5/1/16	Cash	60,000	
	N/P		60,000
12/31/16	Interest Expense (6000*8/12)	4,000	
	Interest Payable		4,000
5/1/16	N/P	18, 126.89	
	Interest Expense (6000*4/12)	2,000	
	Interest Payable	4,000	
	Cash		24,126.89

N/P

18,126.89	60,000
	41,873.11

I/P

	4,000

I/E

4,000	4,000 (closing)
0	

Balance Sheet	Income Statement	Statement of Cash Flows

December 31, 2016: Liabilities: Current Liabilities (due within a year): Interest Payable 4,000.00 Note Payable 18,126.89 Long Term Liabilities Notes Payable 41,873.11	Interest Expense 4,000	Financing Cash Flow Received from NP $60,000

KEY POINTS FOR LUMP-SUM (NONINTEREST-BEARING) NOTES:

1. Interest carrying value of the note = proceeds = present value.
2. There is NO face rate of interest, only a market rate.
3. There are NO periodic payments.
4. The future value = face value of the note.
5. Interest expense for a period is: carrying value x market rate x 1/c.
6. Carrying value of the note increases over time as interest expense (not paid) is added to the CV.

Note #2 Want to borrow $60,000 by issuing a 3-year noninterest-bearing note. The market interest rate is 10% and the note will be date May 1, 2016.

FV = ? 79,860 PMT = r = 10 c = 1 n = 3 PV = 60,000

Date	Payment	Interest Expense	Discount on Notes Payable	Face Value	Carrying Value
5/1/16			19,860	79,860	60,000
5/1/17	0	6000	13860	79,860	66,000
5/1/18	0	6600	7260	79,860	72,600
5/1/19		7260	0	79,860	79,860

NOTES:

Interest Expense = 6000+6600+7260=19,860
Discount=19,860
Interest is a function of time and is recorded at each year end. This converts the discount into interest each year.

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Date	Account Title	Debit	Credit
5/1/16	Cash	60,000	
	Discount on Notes Payable	19,860	
	Notes Payable		79,860
12/31/16	Interest Expense (6000*8/12)	4,000	
	Discount on Notes Payable		4,000

N/P

	79,860

Disc N/P

19,860	4,000
15,580	

I/E

4,000	

Balance Sheet	Income Statement	Statement of Cash Flows

December 31, 2016 Current Liabilities Long Term Liabilities Notes Payable 79,860 Less Discount on NP 15,860 64,000	Interest Expense 4,000	Financing Cash Flow Received from NP $60,000

KEY POINTS FOR PERIODIC AND LUMP-SUM (BONDS) NOTES WHEN MARKET RATE = FACE RATE

1. Initial carrying value of the note = proceeds = present value.
2. The payment (ANN) = face value x face rate x 1/c.
3. Face value of the note = future value.
4. Interest expense for a period is: carrying value x market value x 1/c.
5. The interest expense on the income statement and the interest payment on the statement of cash flows are the same.
6. The carrying value of the note will not change.

Note #3 3-year note with a $60,000 face value and an 8% face rate that is paid annually.

The market rate of interest on the day the note is issued (May 1, 2016) is 8%.

FV =60,000 PMT = 4800 r = 8 c = 1 n = 3 PV = 60,000

Date	Cash Interest Payment	Interest Expense			Carrying Value
5/1/16					60,000
5/1/17	4800	4800			60,000
5/1/18	4800	4800			60,000
5/1/19	4800	4800			60,000

NOTES:

Total interest expense=4800*3=14,400
Total interest payment= 4800*3=14,400
Carrying value remains the same.

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Date	Account Title	Debit	Credit
5/1/16	Cash	60,000	
	B/P		60,000
12/31/16	Interest Expense (4800*8/12)	3,200	
	Interest Payable		3,200
5/31/16	Interest Expense	1,600	
	Interest Payable	3,200	
	Cash		4,800

B/P

	60,000

I/P

	3,200
3,200	
0	

I/E

3,200	
	3,200
0	
1,600	

Balance Sheet	Income Statement	Statement of Cash Flows

December 31, 2016: Current Liabilities Interest Payable 3,200 Long Term Liabilities Bond Payable 60,000	Interest Expense 3,200	Financing Cash Flow Received from Bond Payable 60,000

KEY POINTS FOR PERIODIC AND LUMP-SUM PAYMENT (BONDS) NOTES WHEN MARKET RATE > FACE RATE

1. Initial carrying value of the note = proceeds = present value.
2. The payment (ANN) = face value x face rate x 1/c.
3. Face value of the note = future value.
4. Interest expense for a period is: carrying value x market rate x 1/c.
5. The difference between the interest expense on the income statement and the interest payment on the statement of cash flows is the adjustment to the carrying value of the note on the balance sheet.
6. Carrying value of the note increases over time as the adjustment is added to the carrying value.

Note #4 3-year note with a $60,000 face value and an 8% face rate that is paid annually.

The market rate of interest on the day the note is issued (May 1, 2016) is 10%.

FV = 60,000 PMT = 4,800 r = 10 c = 1 n = 3 PV = 57,015.78

Date	Cash Interest Payment	Interest Expense	Discount Reduction	Discount Remaining	Face Value	Carrying Value
5/1/16				2,984.22	60,000.00	57,015.78
5/1/17	4,800.00	5,701.58	901.58	2082.64	60,000.00	57,917.36
5/1/18	4,800.00	5,791.74	991.74	1090.90	60,000.00	58,909.10
5/1/19	4,800.00	5,890.91	1090.90	0	60,000.00	60,000

NOTES:

Cash Received: 57,015.78
Cash Paid: 60,000 + (4800*3) = 74,400
Difference = 17,384.22
Interest Expense = 5701.58+5791.74+5890.91=17,384.22
Interest Paid = 4800*3=14,400
Interest Expense – Interest Paid = Discount
*A discount occurs when the cash received is lower than the face value of the bond because the market rate of interest is greater than the face rate of interest.

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Date	Account Title	Debit	Credit
5/1/16	Cash		
	Discount on Bonds Payable	2,984.22	
	Bonds Payable		60,000.00
12/31/16	Interest Expense (5701.58*8/12)	3,801.05	
	Discount on Bonds Payable (901.58*8/12)		601.05
	Interest Payable (4,800*8/12)		3,200.00
5/31/16	Interest Expense (5701.58 * 4/12)	1,900.53	
	Interest Payable	3,200.00	
	Discount on Bonds Payable (901.58*4/12)		300.53
	Cash		4,800.00

B/P

	60,000

Disc B/P

2984.22	
	601.05
2383.17	
	300.53
2082.69	

I/E

3801.05	
	3801.05
0	
1900.53	

Balance Sheet	Income Statement	Statement of Cash Flows

December 31, 2016: Current Liabilities Interest Payable 3,200 Long Term Liabilities Bond Payable 60,000 Less Disc. B/P 2,383.17 57,616.83	Interest Expense 3,801.05	Financing Cash Flow Received from Bond Payable 57,015.78

KEY POINTS FOR PERIODIC AND LUMP-SUM PAYMENT (BONDS) NOTES WHEN MARKET RATE < FACE RATE

1. Initial carrying value of the note = proceeds = present value.
2. The payment (ANN) = face value x face rate x 1/c.
3. Face value of the note = future value.
4. Interest expense for a period is: carrying value x market rate x 1/c.
5. The difference between the interest expense on the income statement and the interest payment on the statement of cash flows is the adjustment to the carrying value of the note on the balance sheet.
6. Carrying value of the note decreases over time as the adjustment is deducted from the CV.

Note #5 3-year note with a $60,000 face value and an 8% face rate that is paid annually. The market rate of interest on the day the note is issued (May 1, 2016) is 6%.

FV = 60,000 PMT = 4,800 r = 6 c = 1 n = 3 PV = 63,207.61

Date	Cash Interest Payment	Interest Expense	Premium Reduction	Premium Remaining	Face Value	Carrying Value
5/1/16				3,207.61	60,000.00	63,207.61
5/1/17	4,800.00	3792.46	1007.54	2,200.07	60,000.00	62,200.07
5/1/18	4,800.00	3732.00	1068.00	1132.07	60,000.00	61,132.07
5/1/19	4,800.00	3667.92	1132.07	0	60,000.00	60,000.00

NOTES:

Cash Received: 63,207.61
Cash Paid: 60,000 + (4800*3) = 74,400
Difference = 11,192.39
Interest Expense = 11,192.39
Interest Paid = 4800*3=14,400
Interest Expense – Interest Paid = Premium = 3,207.61
*A premium is the excess cash received above the face value of the bond because the market rate of interest is less than the face rate of interest.

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Date	Account Title	Debit	Credit
5/1/16	Cash	63,207.61	
	Premium on Bonds Payable		3,207.61
	Bonds Payable		60,000.00
12/31/16	Interest Expense (3792.46*8/12)	2528.31	
	Premium on Bonds Payable (1007.54*8/12)	671.69	
	Interest Payable		3200.00
5/31/15	Interest Expense (3792.46*4/12)	1264.15	
	Interest Payable	3200.00	
	Premium on Bonds Payable (1007.54*4/12)	335.85	
	Cash		4800.00

B/P

	60,000

Prem B/P

	3207.61
671.69	
	2535.92
335.85	
	2200.07

I/P

	3200
3200	
0	

I/E

2528.31	2528.31
0	
1264.15	

Balance Sheet	Income Statement	Statement of Cash Flows

December 31, 2016: Current Liabilities Interest Payable 3,200 Long Term Liabilities Bond Payable 60,000 Plus Prem B/P 2,535.92 62,535.92	Interest Expense 2,528.31	Financing Cash Flow Received from Bond Payable 63,207.61